

IN THE CLAIMS:

1. **(Currently Amended)** An improved machine vision vehicle wheel alignment system having at least one camera, a computer operatively coupled to the at least one camera, the computer configured with vehicle wheel alignment software, and at least one optical target configured for attachment to a vehicle within a field of view of the at least one camera, wherein the improvement comprises:

at least one additional camera mounted to a ~~movable~~ positionable vehicle service apparatus which is separate from the alignment system and is positionable relative to the vehicle, said at least one additional camera operatively coupled to the computer, said at least one additional camera disposed to include at least one optical target in an associated field of view; and

wherein said computer is further configured to utilize images of the at least one optical target received from said at least one additional camera to guide the placement of said ~~movable~~ positionable vehicle service apparatus relative to the vehicle.

2. **(Currently Amended)** The improved machine vision vehicle wheel alignment system of Claim 1 wherein said computer is further configured to guide the placement of the positionable vehicle service apparatus relative to a rear thrust line of said associated vehicle.

3. **(Currently Amended)** The improved machine vision vehicle wheel alignment system of Claim 1 wherein said positionable vehicle service apparatus is a vehicle collision avoidance system alignment fixture.

4. **(Currently Amended)** An improved machine vision vehicle wheel alignment system having at least one camera, a computer operatively coupled to the at

least one camera, the computer configured with vehicle wheel alignment software, and at least one optical target configured for attachment to a vehicle within a field of view of the at least one camera, wherein the improvement comprises:

at least one additional optical target configured for attachment to a ~~movable~~ positionable vehicle service apparatus within a field of view of the at least one camera, said positionable vehicle service apparatus separate from the alignment system and positionable relative to the vehicle; and

wherein said computer is further configured to utilize images of the at least one additional optical target received from the at least one camera to guide the placement of said ~~movable~~ positionable vehicle service apparatus relative to the associated vehicle.

5. (Currently Amended) The improved machine vision vehicle wheel alignment system of Claim 4 wherein said computer is further configured to guide the placement of the positionable vehicle service apparatus relative to a rear thrust line of said associated vehicle.

6. (Currently Amended) The improved machine vision vehicle wheel alignment system of Claim 4 wherein said positionable vehicle service apparatus is a collision avoidance system alignment fixture.

7. (Currently Amended) The improved machine vision vehicle wheel alignment system of Claim 4 wherein a field of view of the at least one camera is adjustable to selectively view the at least one optical target configured for attachment to a vehicle and to selectively view said at least one additional optical target configured for attachment to said ~~movable~~ positionable vehicle service apparatus.

8. (Currently Amended) A method for aligning a ~~movable~~ positionable vehicle service apparatus relative to an associated vehicle utilizing a separate machine vision vehicle wheel alignment system having at least one camera, a computer operatively coupled to the at least one camera, the computer configured with vehicle wheel alignment software, and at least one optical target configured for attachment to a vehicle within a field of view of the at least one camera, comprising the steps of:

mounting the at least one optical target on the associated vehicle in the field of view of the at least one camera;

acquiring, at the computer, data representative of the position and orientation of one or more components of the associated vehicle from one or more images of the at least one optical target acquired by the at least one camera;

mounting at least one additional camera on the positionable vehicle service apparatus, said at least one additional camera operatively coupled to the computer and having a field of view including the at least one optical target;

acquiring, at the computer, data representative of the position and orientation of the positionable vehicle service apparatus relative to the associated vehicle from one or more images of the at least one optical target acquired by said at least one additional camera; and

guiding placement of the ~~movable~~ positionable vehicle service apparatus relative to the associated vehicle utilizing said acquired position and orientation of the one or more components of the associated vehicle and said acquired position and orientation of the positionable vehicle service apparatus.

9. (Currently Amended) The method for aligning a vehicle service apparatus of Claim 8 further including the step of determining the rear thrust line of the associated vehicle from said acquired data representative of the position and orientation of one or more components of the associated vehicle; and

wherein the step of guiding further includes guiding the placement of the positionable vehicle service apparatus relative to said rear thrust line of the associated vehicle.

10. (Currently Amended) A method for aligning a ~~moveable~~ positionable vehicle service apparatus relative to an associated vehicle utilizing a separate machine vision vehicle wheel alignment system having at least one camera, a computer operatively coupled to the at least one camera, the computer configured with vehicle wheel alignment software, and at least one optical target configured for attachment to a vehicle within a field of view of the at least one camera, comprising the steps of:

mounting the at least one optical target on the associated vehicle in the field of view of the at least one camera;

acquiring, at the computer, data representative of the position and orientation of one or more components of the vehicle from one or more images of the at least one optical target acquired by the at least one camera;

mounting one or more additional optical targets on the positionable vehicle service apparatus, said one or more additional optical targets in a field of view of the at least one camera;

acquiring, at the computer, data representative of the position and orientation of the positionable vehicle service apparatus relative to the associated vehicle from one or

more images of the at least one additional optical targets acquired by the at least one camera; and

guiding placement of the ~~movable~~ positionable vehicle service apparatus relative to the associated vehicle utilizing said acquired position and orientation of the one or more components of the associated vehicle and said acquired position and orientation of the positionable vehicle service apparatus.

11. (Currently Amended) The method for aligning a vehicle service apparatus of Claim 10 further including the step of determining the rear thrust line of the associated vehicle from the acquired data representative of the position and orientation of one or more components of the associated vehicle; and

wherein the step of guiding further includes guiding the placement of the positionable vehicle service apparatus relative to said rear thrust line of the associated vehicle.

12. – 23. (Cancelled)